AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A wireless communication apparatus for receiving a communication signal that frequency-hops among ~~a plurality of~~ frequency bands, the wireless communication apparatus comprising:

a frequency conversion unit for multiplying ~~a~~ the received communication signal by a local ~~signal composed of a~~ hopping frequency signal ~~so as~~ to convert the received communication signal ~~perform frequency conversion~~;

a high-pass filter unit ~~that includes~~ for filtering the converted communication signal, comprising:

~~parallel-arranged~~ capacitors in parallel and corresponding to the frequency-hopping bands, and

switches ~~connections of~~ for coupling the converted communication signal to the capacitors in synchronization with the frequency hopping; and

a reception processing unit for ~~performing reception~~ processing ~~on a received~~ the filtered communication signal. ~~that has passed through the high-pass filter unit~~

2. (Currently amended) The wireless communication apparatus according to claim 1, wherein the communication signal is an ultra-wideband signal ~~obtained by carrying transmission information over a wide frequency band~~.

3. (Currently amended) The wireless communication apparatus according to claim 1, wherein the communication signal is an OFDM signal obtained by allocating ~~a plurality of~~ pieces of data to carriers, modulating ~~amplitude~~ amplitudes and ~~phase for each carrier~~ phases of the carriers, and transforming the carriers into signals ~~along a~~ in the time domain while maintaining orthogonality of ~~each carrier along a~~ the carriers in the frequency domain, and wherein the reception processing unit performs OFDM demodulation.

4. (Currently amended) The wireless communication apparatus according to claim 1, wherein the high-pass filter unit controls the switches ~~has a time difference at the time of switching connections of capacitors so as not~~ to exclusively couple the converted communication signal to the ~~simultaneously connect two or more~~ capacitors ~~in parallel~~ in synchronization with frequency hopping.

5. (Currently amended) The wireless communication apparatus according to claim 1, wherein the high-pass filter unit has a parasitic-capacitance elimination unit for eliminating parasitic capacitance when the switches respectively decouple the converted communication signal from the capacitors ~~at the time of disconnecting each capacitor~~.

6. (New) A wireless receiver, comprising:

an antenna that receives a communication signal;

a local oscillator that generates local oscillation signals having different frequencies;

a mixer that multiplies the received communication signal with the local oscillation signals to output a frequency-converted signal;

capacitors coupled in parallel between the output of the mixer and an output of the wireless receiver via respective switches; and

a frequency hopping controller configured to:

control the local oscillator to frequency hop between the local oscillation signals, and

control the first switches, in synchronization with the frequency hopping, such that only one of the switches is closed at a given time.

7. (New) The wireless receiver of claim 6, further comprising second switches respectively coupling the capacitors to ground, wherein the frequency hopping controller is further configured to control the second switches to discharge their respective capacitors in synchronization with the frequency hopping.

8. (New) A wireless receiver, comprising:

an antenna that receives a communication signal;

a local oscillator that generates local oscillation signals;

a mixer that multiplies the received communication signal with the local oscillation signals to output a frequency-converted signal;

first through third capacitors connected in parallel between the output of the mixer and an output of the wireless receiver;

first through third switches for respectively coupling the frequency-converted signal to the first through third capacitors; and

a frequency hopping controller configured to:

control the local oscillator to frequency hop between first through third local oscillation signals, each having a different frequency, and

open and close the first through third switches, in synchronization with the frequency hopping, such that frequency-converted signals based on the first through third local oscillation signals are respectively coupled to the first through third capacitors and such that only one of the first through third switches is closed at any given time.